ccNSO IANA Update

ICANN Singapore, June 2011

Kim Davies

Manager, Root Zone Services

Internet Corporation for
Assigned Names & Numbers

Agenda

- Root Zone Management System
- Business Excellence
- Improvements to delegation and redelegation

Root Zone Management System

Background

- ICANN, VeriSign and NTIA are deploying a new system to manage the DNS root zone.
- A multi-year collaborative effort between the three organisations to develop and test the system.

ICANN

VERISIGN™

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

What does the system do?

- Three piece system (one at each organisation) for replacing the current manual workflow.
- Retains the same workflow, but automates many of the processing steps.
- Communication between ICANN and VeriSign conducted via EPP removing risk from the current process.
- More immediate feedback to TLD managers on problems with requests.
- Automating aspects like obtaining confirmations and performing technical checks should decrease end-to-end processing times.

Development history

- Work on this project began in 2006, following discussions particularly between ICANN and CENTR.
- Initially an ICANN-only project, scope was expanded to include VeriSign and later systems for NTIA also. End product now covers the whole workflow.
- Using EPP proved to be a challenge for an asynchronous workflow
- DNSSEC impacted roll-out schedule.
- Development substantially done by mid-2010. Since then, cautious and careful testing program has been conducted.

Highlights of the system

- Provides a new optional web interface for TLD managers. Change requests can be lodged through web interface with immediate feedback. Status of change requests can be monitored in real time.
- Steps that have been automated include contact confirmation process, technical check process, verification process and the general processing and status update notifications.
- There is still manual review by all three parties of every request. This ensures adequate safeguards are retained.

Testing

- Three types of testing: internal, OT&E (integration) and parallel operations
- Most interesting is parallel operations: for the last six months, all root changes we've processed have been done twice - in manual process, and in the automation system.
- We made sure the output of both processes were consistent to consider the system to be working correctly.
- To qualify the system for deployment, formal error free period starting 11 April, with a time and count threshold

Roll-out

- We formally passed the testing programme today
  - Sign off by all three parties
- System will now be accepted into production.
- All TLD managers will be issued with credentials to the system as part of the roll-out

Key dates

21 June 2011	▸ System passes testing programme ▸ All three parties agree it is ready ▸ Commence notification process
Cutover day (Q3 2011)	▸ Root zone now comes from management system ▸ TLD confirmations and notifications will come from system, not manual staff email
Post cutover	▸ Start inducting TLDs to web interface
by Senegal	▸ Complete inductions

Key take-aways

- For TLD managers, nothing changes if you don't want it to. Continue to submit requests as normal.
- Once inducted into the system, you'll have an additional choice in how to submit requests, and the ability to review and check requests.
- Overall end-to-end processing times will improve, although not drastically.
  - Much of the work to optimise the process was done in the past few years in the manual process.

Future work

- Our main focus has been a correctly functioning system for first version.
  - Limited “new” functionality to avoid scope creep.
- Current version only supports “routine” changes from credentialed users. Look into supporting requests such as adding a new TLD in the future.
- Take feedback from the community on new features and refining the interface.

Thanks

- NTIA and VeriSign for collaborating on this project.
- NASK, who we contracted to help develop the back-end workflow. They used their experience developing the *e-IANA* prototype to help develop this new system for us.
- CENTR, who drove the initiative at the beginning.

Business Excellence

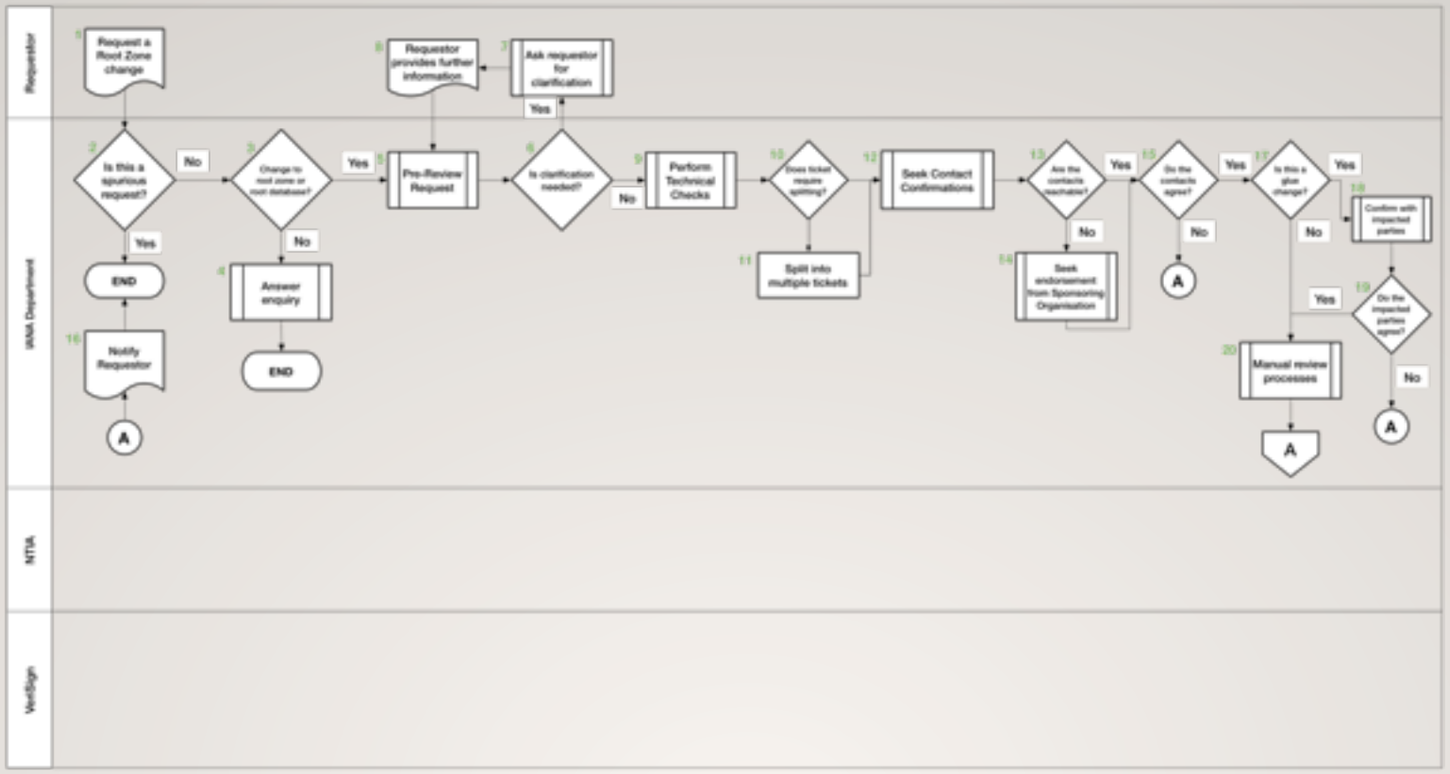
Business Excellence

- IANA is undertaking a multi-year “Business Excellence” project
- Following the EFQM model
  - European Foundation for Quality Management
- Methodology involves continuous improvement
- Pilot case, that is expected to extend across ICANN

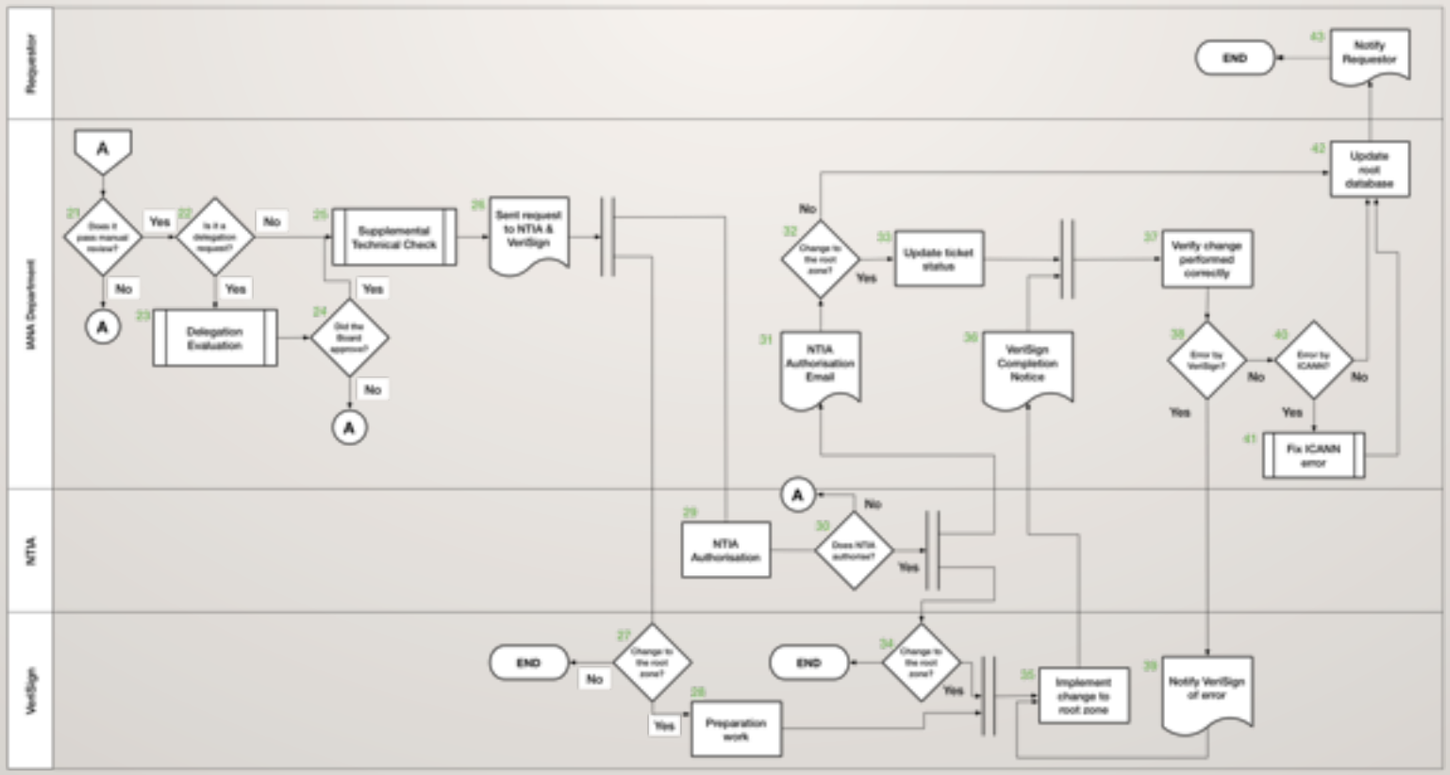
Work to date

- Internal documentation of process flow and procedures
- Internal annual assessments
- Initial research into appropriate peformance metrics

Processing Root Zone Change Requests (1/2)



Processing Root Zone Change Requests (2/2)



2	**Is this a spurious request?**
Description	Review whether the request is substantive, or can be deleted.
Actor	IANA Staff
Documents	—

Steps	• Review particulars of the request.
	• A request should not be considered spurious:
	  • If it clearly involves a specific TLD and relates to a change or question concerning the TLD.
	  • If it involves the root zone in general, or management of the root zone.
	• A request will likely be considered spurious if:
	  • It relates to a commercial product offering ("spam").
	  • It is fully in a foreign language that has no reference to root zone management; or is otherwise entirely unintelligible.
	  • Clearly caused by malfunctioning software (e.g. mail loop).
	• If the request is spurious, for example spam, unintelligible or caused by malfunctioning software; then mark the ticket as deleted in the ticketing system.
	• Proceed to **Step 3**.

Current work

- Develop measurement models regarding quality of service to held us drive continuous improvement
- Iterating the delegation and redelegation process to be as objective as possible

Sample metrics

Timeliness	▸ End-to-end processing time ▸ Time for different actors (incl. requestor)
Accuracy	▸ Are changes being implemented as originally intended?
Quality	▸ How many requests need clarifications or followups with the applicant? ▸ Are customers happy?
Transparency	▸ Is required reporting performed on time? ▸ ?
Contract performance	▸ Are we satisfying all metrics dictated in contracts?

Documentation

- RFC 1591 is not good documentation
- (IMHO) the best way for the community to hold us accountable is to fully document our process, and for us to report against how we execute on that process.
  - Gives the community a basis to criticise and suggest improvements — right now everyone is left to guess.
  - Improves customer service by setting common expectations and reducing ICANN servicing customer issues.
- Key challenge is past history and risk perception
  - ICP-1; Is ICANN creating policy by documenting current practice?

Delegation and Redelegations

Board improvements

- Fast Track has emphasised some interpretation issues for assessing delegations and redelegations
- ICANN Board tasked Board IANA Committee to consider improvements in August 2010
- Board Committee passed its recommendations back to full Board to consider later this week
- Improvements do not change policy, just clarify the interpretation
  - Does not prejudice outcome of FOIWG, etc.

Other work

- Following the work of the ccNSO
- Iterating the process to make more objective and predictable
  - Ideal situation is a checklist based approach
- Board IANA Committee evaluating improvements
- Scaling up process for new gTLD program

Other items

DNSSEC

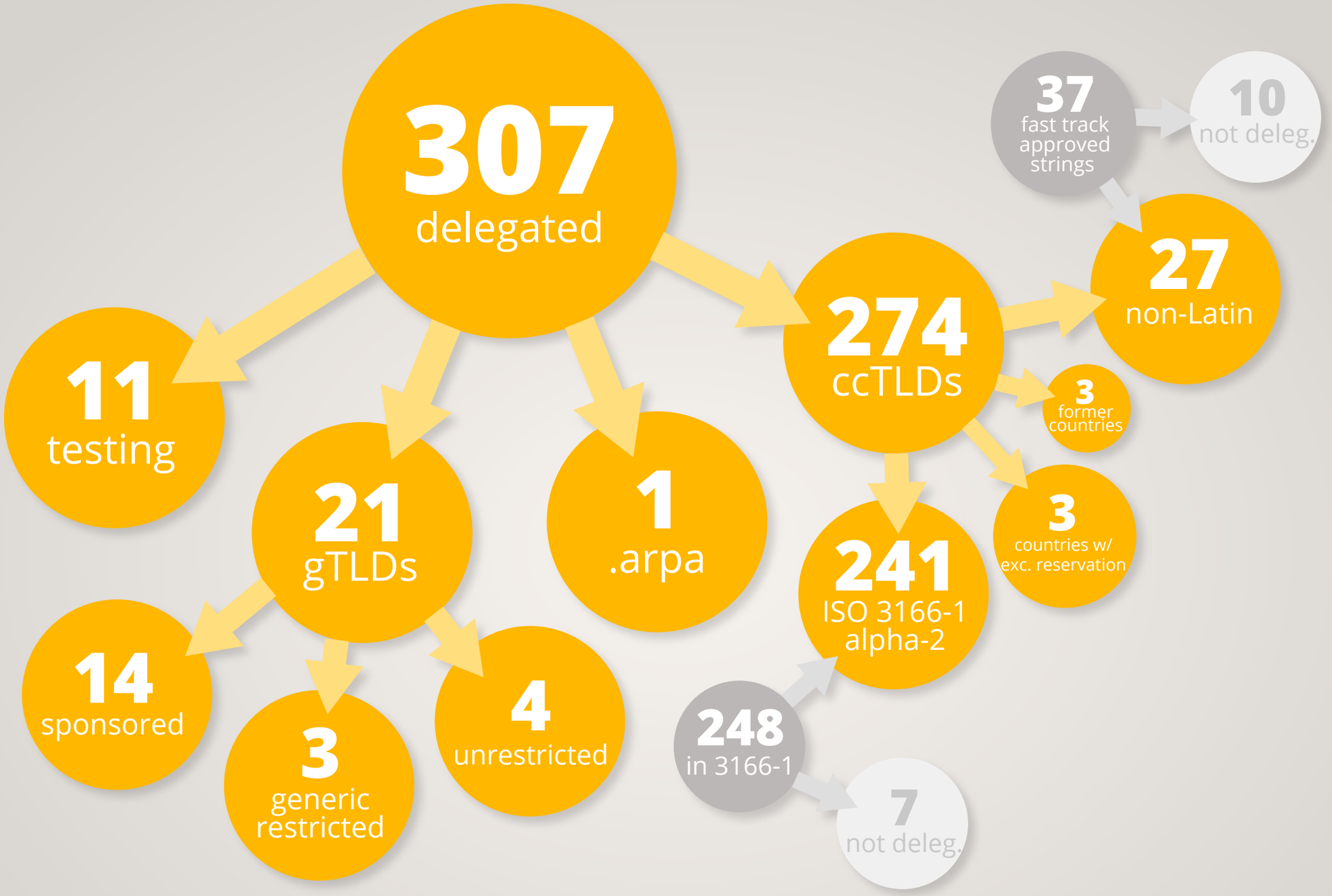
- No news is good news

New IANA Contract

- Responses to initial NOI highlighted areas ICANN strongly supports, like improved transparency
- US Government has issued a Further Notice of Inquiry (FNOI)
  - ICANN Board is reviewing FNOI, to decide what response, if any, to make
  - We encourage community to respond to the FNOI
- Interesting session held at the APrIGF meeting on Friday

Current IANA Contract

- Extended until March 31, 2012



Current TLD Census

As at 19 June 2011

IPv6

- IANA handed out last IPv4 blocks earlier this year
- All IANA services now available over IPv6

None 1 2 3 4+

ccTLD diversity by origin AS of IPv6 nameservers

As at 8 June 2011

Thanks!

kim.davies@icann.org